

Comment	EPA Office	Document Section	Page #	Topic
42	FFEO	2.10.4 Reduction of Toxicity, Mobility, or Volume Through Treatment	2-26	ARAR
44	FFEO	2.12.2.3 Waste acceptance criteria	2-42	ARAR
45	FFEO	2.12.2.4 Description of EMDF operations	2-45	ARAR
47	FFEO	2.13.2 Compliance with ARARs	2-50	ARAR
49	FFEO	Table A.1	A-3	ARAR
52	OGC		2-46; 2-50	ARAR
53	OGC		2-46	ARAR
84	OSRTI		1.2 1-4	ARAR

Citation from Draft ROD

Onsite Disposal Alternatives would provide landfill wastewater treatment needed to meet ARARs, including portions of the [CWA] that address hazardous chemicals and ARARs addressing radiological discharges.

The inventory (WAC) limits are the maximum values allowed per the ARAR dose for protection of the public, which has been deemed protective under CERCLA by EPA.

4th paragraph discussing rad discharge

Refers to NRC-based TDEC regs as ARARs that "are used along with site-specific parameters to develop limits on radiological discharges during operations that ensure protection fo human health and the environment. "

2nd row: Radionuclide releases to the environment

ARARs

Specific Comment

It appears that they avoid saying that CWA is an ARAR for radiological discharges. If that is true, we suggest modifying the language to make it clear that CWA is an ARAR for rads.

This section refers only to dose limits under the TDEC equivalents of NRC regs, not to protective limits under CWA regs.

We wanted to ensure that this paragraph is consistent with the Decision. They only refer to ARARs with dose-based limits and don't mention CWA ARARs for rad discharge. The paragraph says that the standard applies at the point of public exposure, then later says that discharge limits (in compliance with 10-5) will be implemented at the point of discharge. This creates some ambiguity about whether 10-5 will be met throughout the water body.

DOE refers only to NRC ARARs here, with no mention of CWA ARARs.

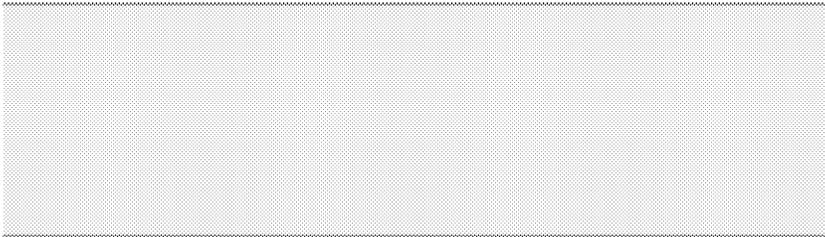
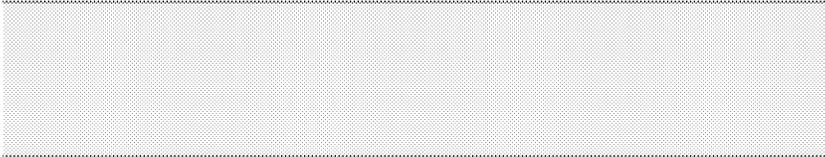
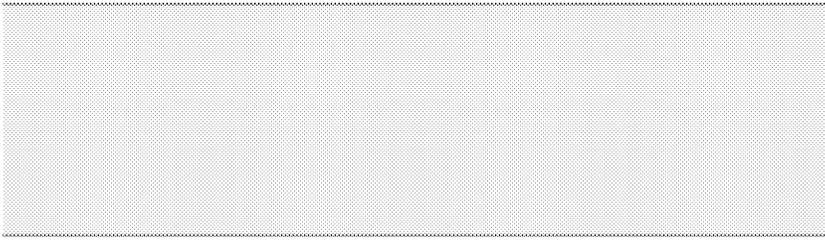
This row only lists NRC regs (and TDEC equivalents) as RAR - CWA should be included here. NRC regulations (not CWA regulations) are the ARARs being used for purposes of wastewater discharge effluent limits (see p. 2-46 and 2-50). To the extent the NRC regulations are not as stringent as the relevant and appropriate CWA regulations, this approach is not consistent with the NCP and as discussed in the preamble to the final NCP, this approach does not ensure protectiveness of human health and the environment as required by CERCLA.

Dilution and distance are being used (see p. 2-46: "Compliance with the ARARs is required at the nearest point of public exposure, which is downstream from the facility." see also, similar statements in June, 2021 revised FFS Appendix K, at K-20). This approach is not consistent with relevant and appropriate CWA regulations, is not consistent with CERCLA and the NCP (for example, compliance with substantive requirements in ARARs), and does not ensure protectiveness of human health and the environment as required by CERCLA.

ARARS (Section 1.2) - Declaration, Section 1.2, page 1-4, seventh paragraph. This paragraph states that the selected alternative meets the threshold criteria that the action "1) be protective of human health and the environment, (2) attain those applicable or relevant and appropriate requirements (ARARs) . . ." Information in the package does not comport with this statement. Information on WAC and landfill requirements not provided. Need to include standards such as TDEC 0400-40-04-.09 -- use of Bear Creek as designated by the state's stream classifications.

Feedback/Revised Comment	Provide to Region Y/N
Consolidate with other comments	Y
Consolidate with other comments	Y
Edit comment to state "The paragraph discussing rad discharge is ambiguous and not fully consistent with the Administrator dispute decision. For example, ..	Y
	Y
	Y
	Y
	Y
WAC will be part of ROD. Consolidate with other comments.	Y

85 OSRTI		1.3	ARAR
86 OSRTI	2.13.2.1 and Part 3		ARAR
87 OSRTI	2.13.2.1		ARAR
67 OLEM IO		1-4; 2-33	Beavers
82 OSRTI		1-4 and 2-33	Beavers
64 OLEM IO		2-28; 2-50	Comparative Analysis
65 OLEM IO		2-28	Comparative Analysis
66 OLEM IO		2-21	Comparative Analysis
81 OSRTI	2.10.5 and Part 3		Comparative Analysis
21 FFRRO	2.12.1 Summary of Rationale for the Selected Remedy	2-35	Design



The need for underdrains is limited to consideration under berms.
Any/all groundwater intercepts in use during disposal operations
are conceptualized as not necessary or operational following closure
and will not be under the waste.

Lacking AWQCs (Section 1.3) -- Without having approved radionuclide AWQCs it is premature to assert that the remedy is protective. Based on effluent limits in the as-yet-unapproved FFS, however, the dose-based concentrations are not protective in that they exceed 12 mrem dose, which EPA has stated are not protective (11,000 pCi/L is a 25 mrem concentration); and the calculated limits are based on exposures other than recreational use of Bear Creek as understood under the Clean Water Act.

ARARs Waivers (2.13.2.1 and Responsiveness Summary Part 3) – this document uses the term “equivalent standard of performance” throughout as the ARARs waiver. It appears this usage is incorrect but rather we should be citing the TSCA regulation and the TN waiver provisions.

The ARARs waiver for TSCA says we will not achieve the 50-foot level but rather achieve 15-foot distance. The July submittal by the Southern Environmental Law Center provides a diagram that the proposed landfill is at times beneath the groundwater level. Please explain.

Odd statements on beaver control to limit or discourage fishing in Bear Creek (page 1-4 and 2-33).

Beavers – Introduction – it is inappropriate and outside the purview of DOE to remove beavers to prevent pooling in the river to prevent fish production.

Costs are in FY 2016 dollars (page 2-28) and in FY 2012 dollars (page 2-50). Costs should be consistent and should be updated since it is now 4th Quarter FY 2021.

State acceptance is mentioned (page 2-28) but no information is provided to support that statement.

Summary of comparative analysis has definitely a different perspective on specifically the first threshold criteria, see pages 2-21 for my comments.

Forested (2.10.5) – We are unduly impacting forested lands. Some of the responses asked why we are building this landfill in a green area and there was not a cogent response. The ROD text notes: The greatest impact would be installation of EMDF in CBCV or WBCV, where up to 94 acres of forested land would be expected to be impacted. The other onsite alternatives had less, but still notable, impact on environmental habitat.

What is the basis for this conclusion? Is it the depth to groundwater or other criteria? Please explain and provide a citation. A second option would be to delete this language from the ROD and put descriptions of underdrains in the RD/RA WP.

comment be changed as follows: "AWQC's consistent with the 12/31/2020 Administrator's dispute decision need to be documented in the FFS and included in the ROD. Lacking inclusion of AWQC's, it would not be possible to determine whether the remedy is protective."

Y

Y

Suggest not to keep as it cites a letter from SELC. Given the RAO on maintaining at 15 foot buffer, the region is aware of this information.

N

Consolidate to one beaver comment which states "Regarding beaver control to limit or discourage fishing in Bear Creek (page 1-4 and 2-33), it is inappropriate and outside the purview of DOE to remove beavers to prevent pooling in the river to prevent fish production.?"

Y

Consolidate to 1 beaver comment.

Y

Y

Y

Y

Consolidate with other comment on mitigation measures.

Y

Y

31 FFRRO	1.4 Description of the Selected Remedy	1-6	Design
32 FFRRO	1.4 Description of the Selected Remedy	1-6	Design
33 FFRRO	2.5.5 Cultural Resources	2-12	Design
36 FFRRO	2.10.5 Short Term Effectiveness	2-27	Design
39 FFEO	2.5.3 Surface Water	2-13	Design

Construction of groundwater and surface water drainage features, as needed, to ensure long-term protection of human health and the environment and to be consistent with ARARs;

Construction of support facilities adjacent to the footprint of the landfill. Support facilities and infrastructure may include operations/support trailers; staging/laydown areas; borrow areas; stockpile areas; parking areas; wastewater storage tanks or basins; truck loading stations; electrical, water, and communication utilities; truck weigh scale; guard stations; wastewater and stormwater management systems; storage/staging areas; material stockpile areas; and spoil areas; Construction and operation of a landfill wastewater treatment system (LWTS) consistent with ARARs

Use of fill material during operation of EMDF, including, but not limited to, crushed concrete, block and brick masonry, waste soil, clean soil, and other soil-like material consistent with ARARs

Because of their limited research potential, no further work was recommended at these five sites. The sites were recommended not eligible for inclusion in the National Register of Historic Places.

“Disturbance to terrestrial resources would be expected, with land use resulting in losses/changes of habitat and displacement of wildlife from the construction areas. The greatest impact would be installation of EMDF in CBCV or WBCV, where up to 94 acres of forested land would be expected to be impacted. The other onsite alternatives had less, but still notable, impact on environmental habitat.”

The CBCV location would appear to also impact existing wetlands as shown in Figure 2.3 on p. 2-8. Section 2.5 on p. 2-12 indicates “The cleared area includes a recent soil staging area along the southern margin and two wetland basins completed in 2015 for Y-12 compensatory wetland mitigation.” Table 2-1 indicates “Impacts would be minimized through use of BMPs or mitigated in accordance with ARARs” and 2.12.4 indicates “The loss of habitat and some wetland areas also will occur during construction. Mitigation of wetland impacts will be implemented as required by ARARs.”.

Road crossings (culverts) present physical barriers for upstream migration of aquatic fauna...

Clarify whether the potential for significant damage to the structural integrity/design of landfill due to potential increase in flood events were incorporated to the described design of the landfill and supporting facilities/features. For example, can the LWTS/other drainage features take on additional capacity if such an event were to occur? The level of climate resiliency of the selected remedy should be discussed.

Clarification whether fill material used during operation of EMDF will meet landfill WAC.

Although the archeological/historic artifacts were deemed "not eligible for inclusion of the National Register of Historic Places, please clarify on how the archeological/historic artifacts will be handled during construction activity in the event that additional artifacts are discovered. Will SHPO be involved as part of process? Is there a contingency plan in the event that additional artifacts are encountered during construction phase?

Are there other triggers for restoring/replacing existing compensatory wetlands beyond what is included in ARARs for the EMDF ROD? Will DOE include additional compensatory mitigation to account for its impacting the existing wetlands constructed themselves as a mitigation project for Y-12?

Is it accurate that fish cannot swim upstream due to culverts, and if so, where are these culverts located in the stream? Are they maintained by DOE?

[Redacted]

Y

[Redacted]

Y

[Redacted]

Y

Comment rewritten as "EPA acknowledges that the CBCV location was a location alternative developed with input from EPA and TDEC. However, we should consider if this action is unduly impacting forested lands. Some of the public comments in the Responsiveness Summary asked why we are building this landfill in a green area and there was not a cogent response. Are there other triggers for restoring/replacing existing compensatory wetlands beyond what is included in ARARs for the EMDF ROD? Will DOE include additional compensatory mitigation to account for its impacting the existing wetlands constructed themselves as a mitigation project for Y-12?"

Y

[Redacted]

Y

	1.4 Description of the Selected Remedy; 2.12.2 Description of the Selected Remedy		
50 FFEO		1-6; 2-37	Design
63 OLEM IO		0	Design
26 FFRRO	2.13.2.3 Radiological Discharge Limits	2-55	Discharge Limits
35 FFRRO	2.13.2.3 Radiological Discharge Limits	2-55	Discharge Limits
54 OGC		2-54	Discharge Limits
58 OLEM IO		0	Discharge Limits
74 OSRTI		0	Discharge Limits
80 OSRTI	2 and Appendix K	2-46 and K-29	Discharge Limits
60 OLEM IO		0	Dispute Resolution
70 OSRTI		0	Dispute Resolution

For the Region: Is it acceptable to put off this particular data collection until a "post-ROD" field demonstration"

The draft ROD also refers to LLW and higher level waste. However, the document does not provide a definition or how that relates to CERCLA and the risk range.

Is there a schedule for established RDLs that can be shared with the group? Is it anticipated this will be draft in D2 or will these be discussed in a parallel effort.

When will the RDLs be shared with the public? Will it be after they are established or will they be shared when still draft for informal or formal public comment?

The draft ROD does not include final effluent discharge numbers (see p. 2-54: "RDLs will be established by the FFA parties and will be included in this ROD prior to its approval."). This approach is inconsistent with CERCLA section 117 and the NCP in that it does not provide a meaningful opportunity for public participation in the CERCLA remedy selection process.

Additionally, the document does not seem to consider the 2021 Focused Feasibility Study. I have not reviewed the 2021 FFS, but it is my understanding that the 2021 FFS does not comply with the latest guidance regarding the CWA WQBELS and risks associated with discharge limits for radionuclides are outside of EPA's risk range. It is important that the information in the 2021 FFS be corrected and complies with CERCLA. The FFS should also be released to the public for comment and when finalized be considered in the decision-making process.

The 2021 FS uses a significantly flawed method for developing discharge limits for radionuclides, most of which would pose risks of 10-2 to 10-0, which does not comply with the CWA WBELS (10-5) and is outside the CERCLA risk range (10-6 to 10-4).

Dilution and Distance Inappropriate (Page 2-46) -- Inappropriate use of dilution and distance – Dilution and distance are being used (see p. 2-46: "Compliance with the ARARs is required at the nearest point of public exposure, which is downstream from the facility." (also, in FFS Appendix K-20.) This use is inconsistent with CERCLA and the NCP.

The draft ROD does not provide much discussion about the dispute and the impacts of the dispute resolution on this decision. This needs to be addressed, given that the dispute decision is still under discussion and the outcome of the decision (discharge limits) are not included in the draft ROD.

Inconsistent with the Adm Wheeler Dispute Decision which is under review. Does not provide an accurate portrayal of the decision and doesn't show how this was factored into this decision. It seems to be relying on the NRC regulatiosn and not other parts of the decision.

OK to delete from FFEO.	N
Region shared relating this to the risk range would be a challenge. Revising comment to state "The draft ROD also refers to LLW and higher level waste. However, the document does not provide a definition. These definitions should be added to the ROD."	Y
	Y
	Y
Addressing through public involvement comments.	N
Proposed edited comment on a different comment regarding WQBELs, 10-5 and updates and consistency between FFS and ROD should address this concern. Same for public comment item addressed in other comments.	N
The FFS will be reviewed by EPA in a parallel effort. AWQC revised comment above should address this comment.	N
Consolidate with other comments	Y
Consolidate with other comments	Y
Consolidate with other comments	Y

56 OLEM IO

0

Draft Quality

57 OLEM IO

0

Draft Quality

89 OSRTI

0

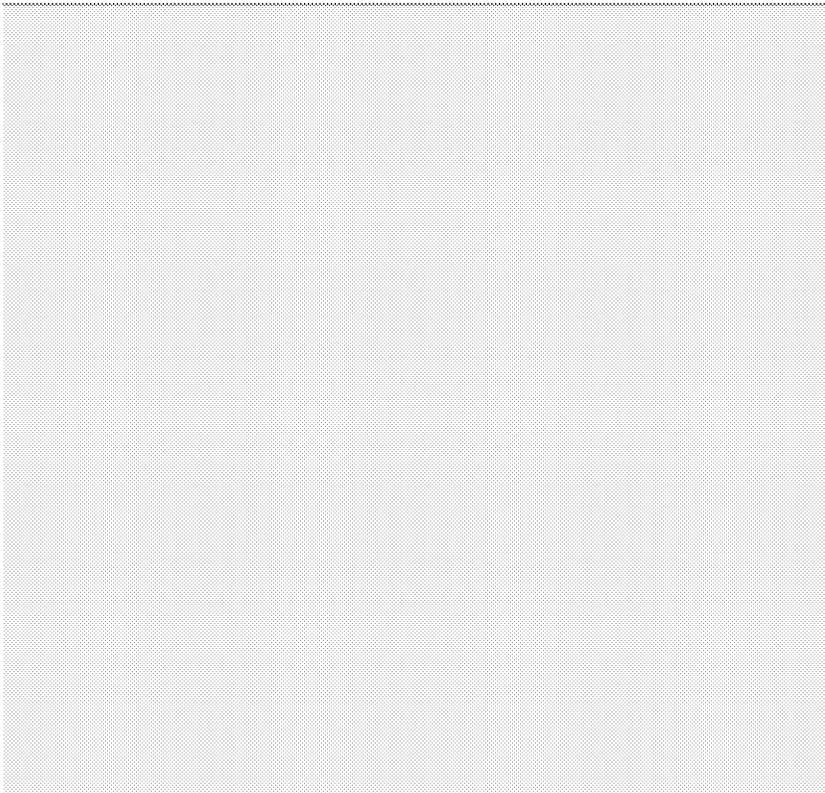
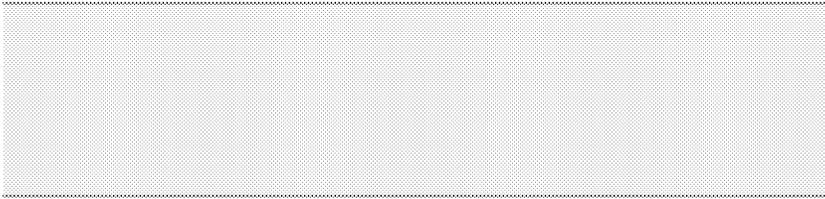
Draft Quality

20 FFRRO

2.10.10 NEPA Values

2-31

Environmental
Justice



Based on the proposed locations for alternatives, coupled with the proximities of these proposed locations when compared with surrounding communities, it was demonstrated that no community is disproportionately affected by the potential environmental consequences presented by the onsite alternatives.

The draft ROD lacks key information that is crucial to the complete review of the decision. This key information has not been provided to EPA for review or the public for the opportunity to comment. The key information relates to PRGs (in this case they would be cleanup levels) and discharge limits for the contaminants that would be disposed of at the EMDF and potentially discharged through waste-water. Not only are the numerical criteria missing, the risk associated with any proposed levels are also not included in the draft document.

As it relates to comment #1 above. There are numerous statements throughout the draft ROD that state that the “the remedy is protective of human health and the environment” or “complies with CERCLA requirements” or “complies with ARARs” however, because of the missing information (see comment #1 above) these statements are not supported.

Due to current deficiencies, we are unable to complete a comprehensive review of the draft ROD. A complete draft ROD is needed that conforms with CERCLA and the NCP. Deficiencies include: the waste acceptance criteria, the landfill design, the cleanup goals, and the ARARs among other issues. It doesn't contain key elements and therefore should not be viewed as a complete package under the FFA. It does not contain numerical release criteria, numerical Waste Acceptance Criteria, complete ARARs, no risk levels at all, etc.

Please elaborate on how this does not pose an EJ concern. Is it because of X distance from the site to neighboring areas? Is it lack of exposure pathways to vulnerable communities? A lack of vulnerable communities? Which specific factors were used to make this determination. A new section in the ROD should be written that conducts a full EJ analysis outside of this smaller section under DOE NEPA values. The 2015 EPA Guidance on Considering EJ During the Development of Regulatory Actions provides more information on how to consider EJ. IT states "current EPA guidance does not prescribe or recommend a specific approach or methodology for conducting screening-level analysis. A screening-level analysis should provide information related to whether there may be potential EJ concerns associated with regulatory actions, and may include elements such as the following:

1. A description of the potential impacts on, and existing risks to, minority populations, low-income populations, and/or indigenous peoples. This may involve a description of:

- The proximity of sources being regulated to these populations
- The number of sources that may be impacting these populations
- The nature and amount of pollutants that may be impacting these populations
- Whether there are any unique exposure pathways involved
- Combinations of the various EJ factors occurring in conjunction with one another
- Expressed stakeholder concerns about the action, if any.

2. A description of potential impediments to meaningful involvement. This may involve understanding whether the action presents opportunities to improve public involvement requirements or limits opportunities in some way." After initial screening, qualitative factors addressing site-specific factors should be identified and considered.

(<https://www.epa.gov/environmentaljustice/guidance-considering-environmental-justice-during-development-action>)

The Region is accepting this document as a D1. Revise comment to state "Major sections of the D1 ROD are missing which make it difficult to provide a complete regulatory review. Deficiencies include: the waste acceptance criteria, radiological discharge levels, and the ARARs among other issues.

Y

Addressed through previous edited comment on this topic.

Y

The Region is accepting this document as a D1. Revise comment to state "Major sections of the D1 ROD are missing which make it difficult to provide a complete regulatory review. Deficiencies include: the waste acceptance criteria, radiological discharge levels, and the ARARs among other issues.

Y

Y

43 FFEO	2.10.10 NEPA Values	2-32	Environmental Justice
All HQ			General
1 FFRRO	1.2; paragraph 4	1-3	Land Use
2 FFRRO	2.12; Figure 2.2	2-33	Land Use
3 FFRRO	2.12.2.7 Land Use Controls	2-47	Land Use
4 FFRRO	2.6 Current and Anticipated Land Use	2-16	Land Use
6 FFRRO	2.12.2.7 Land Use Controls	2-47	Land Use
7 FFRRO	2.12.2.7 Land Use Controls	2-47	Land Use
8 FFRRO	2.12.2.7 Land Use Controls	2-47	Land Use
9 FFRRO	2.12.2.7 Land Use Controls	2-47	Land Use
11 FFRRO	2.7 Table		Land Use

Paragraph discussing EJ

*This land use term , **restricted recreational** , is newly established to define recreational use that is limited in some way.*

For Zone 1 (the area adjacent to the proposed EMDF site), the near-term and long-term land usage for purposes of determining land use controls and setting remediation goals is modified to restricted recreational. Land usage in Zone 2, the area proposed for construction of EMDF, is changed from recreational use in the near-term and unrestricted in the long-term to DOE-controlled industrial use (same as for Zone 3), for purposes of setting land use controls and determining remediation goals both near- and long-term, with approval of this ROD.

The table states that the Federal government or its contractors will implement the LUCs.

Is this enough to address the EJ concerns? The following should be added to the discussion: how EJ was considered, how they'll undertake meaningful stakeholder outreach, how it was demonstrated that no community was disproportionately affected.

The regulatory agencies must have the opportunity to review the proposed WAC, discharge limits for rads, mercury, and located site location information before those items go out for public comment.

In the past we have not allowed a new term to describe a land use. We should discuss if it is appropriate to use this term to describe the prohibition on fishing. "Recreational" is more appropriate.

Please update figure with new land use restrictions for Zones 1, 2, and 3, as described in Sections 1.2 and 2.12. Further, please label LUC.

To Region 4: Please apply the LUC Checklist, and clearly differentiate Zones 1-3. Since the LUCs are being modified for Zones 1 and 2, the LUC Checklist items should be memorialized in this ROD.

Per the LUC Checklist #2, in Section 2.6 please include current and anticipated land uses for Zone 1, 2, and 3. Please include prohibited uses that may not be obvious based on the reasonable anticipated land use such as prohibit the development and use of property for residential housing, elementary and secondary schools, childcare facilities and playgrounds.

It is not clear what the Performance Action Objectives are for Zone 1, 2, and 3. Please clearly differentiate the LUC for each area. Please note that EPA's 1999 ROD Guidance states "Present a clear statement of the specific RAOs for the operable unit or site and reference a list or table of the individual performance standards.

It is not clear what the LUC instrument will be. Please provide more information on the LUC instrument, how it will be implemented and enforced.

Please add language that DOE is responsible for implementing, maintaining, reporting on, and enforcing the land use controls.

Please include the following language: "Although DOE may later transfer these procedural responsibilities to another party by contract, property transfer agreement, or through other means, DOE shall retain ultimate responsibility for remedy integrity."

More information/language is required in the ROD. Provide more details on how LUCs will be implemented for access controls.

Consolidate with other comments

Y

Y

Y

Y

Y

Y

Y

Y

Y

Y

Y

37 FFEO	1.2 Statement of Basis and Purpose; Section 1.4 Description of Selected Remedy; 2.12 Summary of Preferred Remedy	1-3; 1-7; 2-33	Land Use
40 FFEO	2.6.1 Current Land use	2-16	Land Use
41 FFEO	2.6.2 Anticipated Land use	2-16	Land Use
46 FFEO	2.12.2.7 Land Use Controls	2-46	Land Use
59 OLEM IO		0	Land Use
83 OSRTI		2.12	Land Use
88 OSRTI		1.2	Land Use
23 FFRRO	2.12.2.3 Waste Acceptance Criteria	2-45	Leachate Treatment
24 FFRRO	2.12.2.4 Description of EMDF operations	2-46	Leachate Treatment
34 FFRRO	2.4 Scope and Role of the Action	2-11	Offsite Waste
13 FFRRO	2.2.1 Previous Investigations and Data Sources	2-7	Public Involvement

These sections discuss land use changes.

Description of land use

Description of ownership of land

Description of land use controls

All discharge water from EMDF will be treated as necessary to meet the most stringent applicable instream water quality criteria, including recreational, with consideration of the stream mixing zone at the point of discharge

As part of the remedy, a wastewater treatment system will be provided adjacent to the EMDF facility. The system will be sized to accommodate the estimated wastewater volume to be treated and designed to remove contaminants projected to exceed discharge criteria.

Fifth paragraph: The scope of the action is to provide for disposal of CERCLA waste generated from the cleanup... If at some future time. DOE CERCLA waste...

Results of the Phase 1 site characterization confirmed the acceptability of the CBCV site for a new, low level (radioactive) waste (LLW) landfill and support final site selection.

DOE's land use changes do not affect TN's recreation use classification, and the entire water body must still meet 10-5.

This section says that DOE is required to modify the land use but does not specify what the new modified land use needs to be.

Anticipated land use should be specified in this section. This section doesn't comport with LUC checklist language re potential transfers.

This section is missing the following items from the LUC Checklist: Items 6-9; list of prohibited activities relating to industrial use (day cares, schools, recreation areas, etc.). We recommend providing the LUC Checklist to DOE.

The draft ROD also makes and changes land use designations. CERCLA RODs or remedies can make land use assumptions based on land use designations, that are typically done at the local level. In this case, it would be by DOE in their Facility Land Use Plan. The draft ROD should be clear on that issue and provide a basis for changing the land use assumptions.

Fish Advisory (2.12) – the ROD inappropriately relies on fish advisories in conflict with the NCP to select a response action. Furthermore, it is setting a more restricted use of the stream

Statement of Basis (1.2.) (Land Use) - - Need to use "land use assumptions" and needs to comport with the TN designation of the stream as recreational.

Is this comment only regarding mercury management or all COCs? It should apply to all COCs (including chemicals and radionuclides). It seems this is broader than mercury and should have its own heading in this section to avoid confusion. Discharge water should be treated to meet ARARs as well.

Is this the same as the LWTS referenced earlier in the document? If so, the same jargon should be used throughout the document.

What criteria will be used regarding CERCLA waste generated within the state that can be disposed at the on-site waste treatment unit? Need to consider how CERCLA offsite rule may impede the ability to retrieve ORR waste from offsite locations. More details are needed.

When was this completed and where are the results of this study? Are they in the AR? Provide citation.

	Y
	Y
	Y
Consolidate with other comments	Y
Consolidate with other comments	Y
Change the comment to state "Fish advisories are referenced in this section. If fish advisories are going to be relied upon as part of the selected remedy, it needs to be identified as a LUC."	Y
	Y
	Y
	Y
	Y
	Y

14 FFRRO	2.2.1 Previous Investigations and Data Sources	2-9	Public Involvement
16 FFRRO	2.10.9 Community Acceptance	2-29	Public Involvement
17 FFRRO	2.10.9 Community Acceptance	2-29	Public Involvement
18 FFRRO	2.10.9 Community Acceptance	2-29	Public Involvement
19 FFRRO	2.10.9 Community Acceptance	2-29	Public Involvement
27 FFRRO	3. Responsiveness Summary	3-3	Public Involvement
28 FFRRO	3. Responsiveness Summary	3-3	Public Involvement
29 FFRRO	3. Responsiveness Summary	3-3	Public Involvement
30 FFRRO	3. Responsiveness Summary	3-3	Public Involvement

Per the first formal Dispute Resolution Agreement between DOE, EPA, and TDEC in December 2017, the results and analysis of the field investigation, including the first 2 months of monitoring, were placed in the Administrative Record and were available during the Proposed Plan public comment period (DOE 2018c). The entire year long monitoring results are documented in a second Technical Memorandum (DOE 2019), also included in the Administrative Record

DOE held a public review and comment period from September 10, 2018 to January 9, 2019, and hosted two information sessions and a public meeting on November 7, 2018,...

First paragraph in this section.

The Responsiveness Summary in Part 3 of this ROD presents DOE's responses to comments received from the public review and comment period.

First paragraph in this section.

The U.S. Department of Energy's (DOE's) Oak Ridge Office of Environmental Management (OREM) is committed to conducting all of the robust communication efforts listed in its Environmental Management Disposal Facility (EMDF) Community Outreach Plan, which was approved by the U.S. Environmental Protection Agency (EPA) and State of Tennessee.

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) public comment periods are only required to span 30 days. OREM's public comment period for the Proposed Plan was 120 days (September 10, 2018 – January 9, 2019) to ensure all interested parties had time to review and provide comments on the document. Two extensions were granted while the original comment period was set at 45 days.

Participants were able to obtain valuable information from posters, fact sheets, and speaking with all of the project managers associated with EMDF

Was the public made aware of the availability of the second TM (2019)? Was any new information found through the 2019 effort that had an impact on the remedy selected or its implementability?

There is a requirement to publish a notice and brief analysis of the proposed plan and make such plan available to the public. Was this done? The date the newspaper ad was placed should be listed in this section. [CERCLA 117(a)(1) and (d); NCP 40 C.F.R. §300.430(f)(3) (i)(A).

Was a transcript of the meeting added to the AR? This is a requirement under the NCP to keep a transcript of the public meeting held during the public comment period pursuant to CERCLA section 117(a) and make such transcript available to the public. [CERCLA 117(a)(2); NCP 40 C.F.R. §300.430(f)(3) (i)(E)]

Include the language from the responsiveness summary which states: The meeting was publicized in all of the local newspapers, on social media, and by mailing reminders to all 15,000 households in Oak Ridge

Please note that an optional fact sheet to explain the ROD in a concise format can be used to communicate the decision more effectively with the public. A video going over the fact sheet or a information session about the ROD can also be considered.

Suggest starting the paragraph with a new sentence which states: "This responsiveness summary was prepared in accordance with the requirements of Section 117(b) of CERCLA, as amended. The purpose of this responsiveness summary is to summarize and respond to significant public comments on the Proposed Plan (2018a)."

What is the year this document was issued/updated? Is it accessible by the public? Add the document to the references section if not already there and incorporate a hyperlink to the document. .

This comment is misleading. Please update with the language from the NCP. NCP 40 C.F.R. §300.430(f)(3)(i)(C) (C) Provide a reasonable opportunity, not less than 30 calendar days, for submission of written and oral comments on the proposed plan and the supporting analysis and information located in the information repository, including the RI/FS.. Upon timely request, the lead agency will extend the public comment period by a minimum of 30 additional days.

If there is an estimate of number of members of the public who participated, please include that here.

Y

Y

Y

Y

Y

Y

Y

Y

Y

	1.2 Statement of Basis and Purpose; Section 1.4 Description of Selected Remedy; 2.12 Summary of Preferred Remedy		
38 FFEO		1-4	Public Involvement
55 OGC		3-0	Public Involvement
62 OLEM IO		0	Public Involvement
69 OLEM IO		3-68	Public Involvement
71 OSRTI		0	Public Involvement
72 OSRTI		0	Public Involvement
73 OSRTI		0	Public Involvement
77 OSRTI		3	Public Involvement

5th full paragraph - Discussion of public input

Given the new information from the Administrator's Decision and the new executive orders, are there more opportunities for public engagement?

The draft ROD (see e.g., p. 3-153) includes responses to comments received from the public on the proposed plan. Some commenters raised concerns about the lack of information, and as a result the absence of a meaningful opportunity for the public to comment, regarding wastewater discharges from the landfill in the proposed plan. The draft ROD does not provide meaningful responses to those comments.

Based on the draft ROD it seems that the majority of the public engagement activities regarding this decision were mainly conducted in 2015 and 2016 and then engagement in 2018 during the public comment only. Nothing since the close of the public comment period in January 2019. That is a significant length of time since the issuance of the Proposed Plan for public comment. DOE should consider re-issuing the Propose Plan to the public for comment with the full set discharge levels/PRGs/WAC for all contaminants.

The Responsiveness Summary is not responsive to many of the comments and concerns. In particular the request for additional public comment on materials that were previously unavailable requires some dialogue. See pages 3-68 – 3-70.

Public Participation and Response to Comments – Insufficient information has been provided to the public as part of the Proposed Plan process and as a result we are required to fully inform the public through the Proposed Plan, and we have not done so. We should not be working on the ROD until that step has been sufficiently addressed.

Public Comment - The new information generated since the previous public comment period in 2018 needs to be provided to the public in a Proposed Plan before the ROD is signed. Public comment was conducted prior to the dispute resolution. DOE has not been provided information on ARARs or results of the dispute or levels and basis for those level for the release. They have not been provided the WAC disposal criteria. The Southern Environmental Law Center has identified this problem as well.

Proposed Plan – Recommend DOE fix the 2021 FS such that it comports with the latest guidance to meet the CWA WQBELS of 1×10^{-5} and then reissue the Proposed Plan for public comment before a ROD is drafted. According to the July 2021 letter from the Southern Environmental Law Center this was a commitment that Region 4 made in 2017.

Responsiveness Summary (Part 3) – Many of the responses are not responsive to the specific comments. Many commenters noted the need for a reopened public comment period since key information on WAC, ARARs, release criteria, etc. since this information was not made available to the public. Also, there were repeated questions related to why we did not consider an already contaminated area for the disposal area. The responses to comment need to be rewritten to ensure we are addressing the specific comment raised.

Consolidate with other comments?

Y

Y

Y

Consolidate with other comments

Y

Comment will be addressed with the other public involvement comments.

N

Consolidate public involvement activities with other topics. WAC will be part of the ROD.

N

Consolidate with public involvement comments.

N

Consolidate with other comments.

Y

90 OSRTI		0	Public Involvement
All HQ		0	Public Involvement
5 FFRRO	2.8 Remedial Action Objectives.	2-17	RAOs
12 FFRRO	1.3 Assessment of the Site	1-5	RAOs
15 FFRRO	2.8 Remedial Action Objectives.	2-17	RAOs
25 FFRRO	2.12.2.6 Maintenance activities and environmental monitoring	2-47	RAOs
61 OLEM IO		0	RAOs
10 FFRRO	2.12 Summary of Preferred Remedy	2-33	RD/RA WP

The objectives state, *by preventing exposure that exceeds a human health risk of 10^{-4} to 10^{-6} ELCR or HI of 1.*

The RAO states: Maintain a 15-ft separation between the bottom of emplaced waste and the seasonal high water table of the uppermost unconfined aquifer, which includes 5 ft of liner system and 10 ft of geologic buffer consistent with TDEC 0400-11-01-.04(4)(a)(2)

Maintain a 15-ft separation between the bottom of emplaced waste and the seasonal high water table of the uppermost unconfined aquifer, which includes 5 ft of liner system and 10 ft of geologic buffer consistent with TDEC 0400-11-01-.04(4)(a)(2)

Surveillance and maintenance (S&M) and performance monitoring will be implemented during operation and after facility closure .

Public Comment - The new information generated since the previous public comment period in 2018 needs to be provided to the public in a Proposed Plan before the ROD is signed. Public comment was conducted prior to the dispute resolution. DOE has not been provided information on ARARs or results of the dispute or levels and basis for those level for the release. They have not been provided the WAC disposal criteria. The Southern Environmental Law Center has identified this problem as well.

EPA HQ has determined that this site merits additional public involvement activities before finalization of the ROD. EPQ HQ supports statements the Region 4 project team and management level has provided advising DOE to have public engagement on the WAC, discharge limits for rads, mercury, and site location information. DOE should issue a revised Proposed Plan for formal public comment which would ensure steps to have meaningful public involvement have been taken. EPA would like to work with DOE and the State to determine an appropriate path forward for community engagement at ORR regarding this cleanup decision. Please note that an optional fact sheet to explain the ROD in a concise format can be used to communicate the decision more effectively with the public. A video going over the fact sheet or a information session about the ROD can also be considered.

Consider if it would be more appropriate to state "to prevent exposure until UU/UE is achieved."

Is this appropriate to have as a RAO? Seems more like a location-specific ARAR. The explanation below is "This requirement has been added as an RAO in order to assure protectiveness during operation and post-closure." Could be rewritten as "Protect groundwater by maintaining a 15 ft..."

Same as previous comment: Is this appropriate to have as a RAO? Seems more like a location-specific ARAR. The explanation below is "This requirement has been added as an RAO in order to assure protectiveness during operation and post-closure." Could be rewritten as "Protect groundwater by maintaining a 15 ft..."

If performance monitoring shows that the landfill is not functioning properly, not meeting ARARs and/or posing an unacceptable risk to human health and the environment, what are the specific criteria to trigger the need to revisit the remedy? Have contingency plans been considered in the event the landfill impacts groundwater? It may be helpful to identify these triggers in the ROD so that the FFA parties have a clearer understanding of potential future actions.

The RAOs need to have concentrations or levels that provide a reference for how the RAOs will be met.

Please include language that a RD or RAWP will be submitted, along with a timeline. Sample language: "A LUC Remedial Design will be prepared as the land use component of the Remedial Design. Within 90 days of ROD signature, the [federal agency] shall prepare and submit to EPA for review and approval a LUC remedial design that shall contain implementation and maintenance actions, including periodic inspections." Another option is to refer to the enforceable schedule in the IAG for the RD or RAWP."

Consolidate public involvement activities with other topics. WAC will be part of the ROD.

Y

Y

Y

Y

Y

Y

This comment may be addressed when WAC and RDLs are added to the ROD. On it's own, the comment is not clear for the Region to address.

N

Y

22 FFRRO	2.12.2 Description of the Selected Remedy	2-37	RD/RA WP
51 ORCR	2.13.2.1 Waiver to TSCA 40 CFR 761.75(c)(4)	2-51	TSCA Waiver
48 FFEO	3.0 Public Comment Section	3-55	Waste Acceptance Criteria
68 OLEM IO		0	Waste Acceptance Criteria
75 OSRTI	2.12.2	0	Waste Acceptance Criteria

Construction and operation of a LWTS consistent with ARARs

Waiver to TSCA 40 CFR 761.75(c)(4)

DOE says several times throughout the comment section: The developed WAC are anticipated to require nearly 90 percent of the radiological content in the low volume/highly contaminated waste streams to be sent offsite for disposal while the lower contaminated/high volume waste streams remain onsite."

Just to clarify, will details of the LWTS be part of the remedial design and undergo EPA review/approval? That should be called out in the selected remedy section along with a schedule for remedy implementation (see other comments on including an enforceable schedule in the ROD).

For Region 4: The waiver request appears to have been submitted appropriately, in accordance with the TSCA PCB regulations at 40 CFR 761.75(c)(4). In general, we believe a waiver can be appropriate, provided the engineering design and site specific conditions allow for a finding of no unreasonable risk. The impacts of extreme weather and climate change were likely not considered when the referenced guidance was issued in 1990, so we encourage those considerations to be included in the design of the landfill. If waivers have been requested for similar circumstances at other CERCLA sites in the past, we encourage a review of those decisions and whether any relevant precedential information should be applied to this scenario as well.

Confirm the criteria for waste that will be sent off site so that it is clear what type of waste and the estimated amounts.

Final WAC (numerical values) and associated risks need to be provided in the ROD and to the public for comment. It is unclear the risks associated with the landfill once it is operational and accepting waste, and at closure.

Waste Acceptance Criteria (WAC) – 2.12.2 – The draft does not include numerical waste acceptance criteria and therefore this package is deficient. Furthermore, the public has not been given the opportunity to review the Waste Acceptance Criteria.

In the case of McClellan Air Force Base (AFB), the facility did an analysis of level that would be protective and further established levels that based on the maximum that would be envisioned to be received. As the ORR document stands, any level of radionuclides and types of could be disposed of at this facility. Recommend that ORR follow the McClellan AFB model. We should not allow an open-ended decision that any level of radionuclides would be allowed to be disposed of this landfill that may not be designed to be protective for that type of material. Furthermore, the public should be fully aware and have an opportunity provide comment on what is disposed of in their back yard.

	Y
	Y
	Y
WAC will be in the ROD and undergo Public Comment.	N
Consolidate with other comments on WAC. Public involvement is happening on WAC.	Y

76 OSRTI

0

Waste Acceptance
Criteria

78 OSRTI

2.8 0

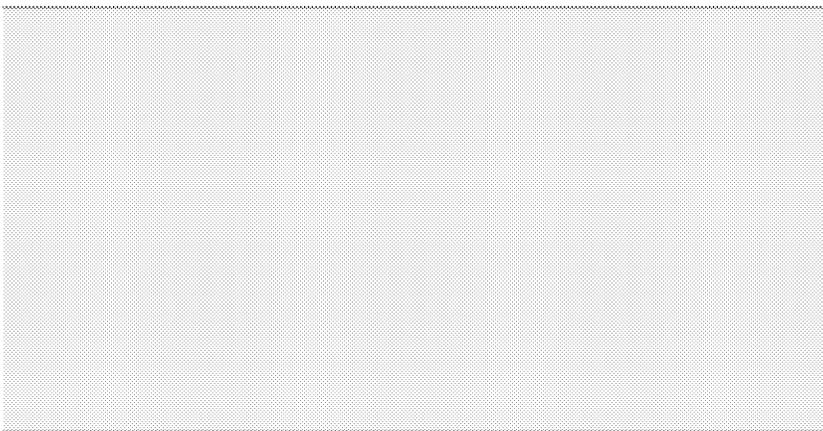
Waste Acceptance
Criteria

79 OSRTI

2.1 0

Waste Acceptance
Criteria

.....



.....

Landfill Protectiveness – The draft Rod does not provide information on the protectiveness of the landfill and does not provide limits on what will be put in the landfill (see WAC discussion above). The ARARs table is lacking at this point.

For the McClellan Air Force Base in Region 9 an analysis was conducted termed a Stennet analysis that provided information on what would be protective for this landfill. This type of analysis is needed for leaving RAD waste in place. While this consultation doesn't apply to Federal Facilities it was done for McClellan as an extra assurance of protectiveness. As a result, the Air Force noted that above a certain level of radioactivity it would not be disposed of in that landfill. A similar analysis has not been conducted for ORR.

In addition, the contaminants include Rn-222 which result in radon emissions. We have had levels of radon at levels unprotective for workers and additional precautions such as a deeper cap are needed. This needs to be evaluated.

Remediation Goal (2.8) – Under CERCLA we need to set remediation goals for all parts of the response. Water Treatment Unit - What goals will the release of the water treatment meet? Landfill -- Will there be an unacceptable risk to a person standing on the landfill due to gamma radiation? What standard for releases from the landfill will be required for it to meet protection of the surface water and groundwater? What level of radioactivity will be allowed to be disposed in this unit? A Low-Level Waste designation does not provide information as to the level of radiation. Also how will we ensure that the radon gas emissions

The ROD needs to be clear in the scope and role section (2.10) that each individual ROD for which a remedy will send waste to this landfill will meet the specific (yet to be specified) WAC for the landfill. Furthermore, that the specific ROD for the sending wastes will meet protectiveness and treatment to the maximum extent practicable and other criteria under CERCLA.

Consolidate with other comments on WAC. Include statement that WAC should address ARARs and TBCs compliance as well as remedy protectiveness, omit the McClellan reference as it doesn't appear to be fully relevant or helpful. Regarding radon emissions, perhaps send as a separate comment to R4 to ask whether Jon Richards has been consulted regarding potential for radon gas exposure for workers. Comment moving forward is Consolidate with other comments on WAC. The contaminants include Rn-222 which result in radon emissions. We have had levels of radon at levels unprotective for workers and additional precautions such as a deeper cap are needed. Has this been evaluated for EMDF?"

Y

RDLs and WAC will be in the final ROD. Radon gas emissions are included in a different comment. Revised comment to state: "Remediation Goal (2.8) – Under CERCLA we need to set remediation goals for all parts of the response. Landfill -- Will there be an unacceptable risk to a person standing on the landfill due to gamma radiation? What standard for releases from the landfill will be required for it to meet protection of the surface water and groundwater? What level of radioactivity will be allowed to be disposed in this unit? A Low-Level Waste designation does not provide information as to the level of radiation."

Y

The second part of this sentence seems outside of the role of this EMDF ROD Edited to state "The ROD needs to be clear in the scope and role section (2.10) that each individual ROD for which a remedy will send waste to this landfill will meet the specific (yet to be specified) WAC for the landfill."

Y

Comment	EPA Office	Document Section	Page #	Topic
43	All		0	Public Involvement
23	All HQ			General
1	FFEO	2.10.4 Reduction of Toxicity, Mobility, or Volume Through Treatment	2-26	ARAR
2	FFEO	2.12.2.4 Description of EMDF operations	2-45	ARAR
3	FFEO	Table A.1	A-3	ARAR
4	FFEO		2-46; 2-50	ARAR
13	FFEO	2.5.3 Surface Water	2-13	Design
24	FFEO	1.2 Statement of Basis and Purpose; Section 1.4 Description of Selected Remedy; 2.12 Summary of Preferred Remedy	1-3; 1-7; 2-33	Land Use
25	FFEO	2.6.1 Current Land use	2-16	Land Use
26	FFEO	2.6.2 Anticipated Land use	2-16	Land Use
61	FFEO	3.0 Public Comment Section	3-55	Waste Acceptance Criteria

Citation from Draft ROD

Onsite Disposal Alternatives would provide landfill wastewater treatment needed to meet ARARs, including portions of the [CWA] that address hazardous chemicals and ARARs addressing radiological discharges.

4th paragraph discussing rad discharge

2nd row: Radionuclide releases to the environment

Refers to NRC-based TDEC regs as ARARs that "are used along with site-specific parameters to develop limits on radiological discharges during operations that ensure protection fo human health and the environment."

Road crossings (culverts) present physical barriers for upstream migration of aquatic fauna...

These sections discuss land use changes.

Description of land use

Description of ownership of land

DOE says several times throughout the comment section: The developed WAC are anticipated to require nearly 90 percent of the radiological content in the low volume/highly contaminated waste streams to be sent offsite for disposal while the lower contaminated/high volume waste streams remain onsite."

Specific Comment

EPA HQ has determined that this site merits additional public involvement activities before finalization of the ROD. EPQ HQ supports statements the Region 4 project team and management level has provided advising DOE to have public engagement on the WAC, discharge limits for rads, mercury, and site location information. DOE should issue a revised Proposed Plan for formal public comment which would ensure steps to have meaningful public involvement have been taken. EPA Region 4 will work with DOE and the State to determine an appropriate path forward for community engagement at ORR regarding this cleanup decision. Please note that an optional fact sheet to explain the ROD in a concise format can be used to communicate the decision more effectively with the public. A video going over the fact sheet or a information session about the ROD can also be considered.

The regulatory agencies must have the opportunity to review the proposed WAC, discharge limits for rads, mercury, and located site location information before those items go out for public comment.

It appears that they avoid saying that CWA is an ARAR for radiological discharges. Modify the language to make it clear that CWA is an ARAR for rads.

The paragraph discussing rad discharge is ambiguous and not fully consistent with the Administrator dispute decision. For example, they only refer to ARARs with dose-based limits and don't mention CWA ARARs for rad discharge. The paragraph says that the standard applies at the point of public exposure, then later says that discharge limits (in compliance with 10-5) will be implemented at the point of discharge. This creates some ambiguity about whether 10-5 will be met throughout the water body.

This row only lists NRC regs (and TDEC equivalent) as RAR - CWA should be included here.

DOE refers only to NRC ARARs here, with no mention of CWA ARARs. CWA needs to listed as an ARAR for radiological discharges.

Is it accurate that fish cannot swim upstream due to culverts, and if so, where are these culverts located in the stream? Are they maintained by DOE? This information should be included in the ROD.

DOE's land use changes do not affect TN's recreation use classification, and the entire water body must still meet 10-5. This needs to be clarified in the text.

This section says that DOE is required to modify the land use but does not specify what the new modified land use needs to be.

Anticipated land use should be specified in this section. This section doesn't comport with LUC checklist language re potential transfers.

Confirm the criteria for waste that will not be allowed into the landfill and will be sent off site and the estimated amounts. This may be addressed by providing definitions for LLW and HLW in the ROD.

Regional Response

Ex Responses: Agree; already included in R4 comments. If not included: out of ROD scope, being addressed through other review processes;

14 FFRRO	1.4 Description of the Selected Remedy	1-6	Design
15 FFRRO	1.4 Description of the Selected Remedy	1-6	Design
16 FFRRO	2.5.5 Cultural Resources	2-12	Design
17 FFRRO	2.12.1 Summary of Rationale for the Selected Remedy	2-35	Design
19 FFRRO	2.13.2.3 Radiological Discharge Limits	2-55	Discharge Limits
27 FFRRO	1.2; paragraph 4	1-3	Land Use
28 FFRRO	2.6 Current and Anticipated Land Use	2-16	Land Use
29 FFRRO	2.12; Figure 2.2	2-33	Land Use

Construction of groundwater and surface water drainage features, as needed, to ensure long-term protection of human health;
Construction of support facilities adjacent to the footprint of the landfill. Support facilities and infrastructure may include operations/support trailers; staging/laydown areas; borrow areas; stockpile areas; parking areas; wastewater storage tanks or basins; truck loading stations; electrical, water, and communication utilities; truck weigh scale; guard stations; wastewater and stormwater management systems; storage/staging areas; material stockpile areas; and spoil areas; Construction and operation of a landfill wastewater treatment system (LWTS) consistent with ARARs

Use of fill material during operation of EMDF, including, but not limited to, crushed concrete, block and brick masonry, waste soil, clean soil, and other soil-like material consistent with ARARs

Because of their limited research potential, no further work was recommended at these five sites. The sites were recommended not eligible for inclusion in the National Register of Historic Places.

The need for underdrains is limited to consideration under berms. Any/all groundwater intercepts in use during disposal operations are conceptualized as not necessary or operational following closure and will not be under the waste.

RDLs will be established by the FFA parties and will be included in this ROD prior to its approval.

*This land use term , **restricted recreational** , is newly established to define recreational use that is limited in some way.*

For Zone 1 (the area adjacent to the proposed EMDF site), the near-term and long-term land usage for purposes of determining land use controls and setting remediation goals is modified to restricted recreational. Land usage in Zone 2, the area proposed for construction of EMDF, is changed from recreational use in the near-term and unrestricted in the long-term to DOE-controlled industrial use (same as for Zone 3), for purposes of setting land use controls and determining remediation goals both near- and long-term, with approval of this ROD.

Clarify whether the potential for significant damage to the structural integrity/design of landfill due to potential increase in flood events were incorporated to the described design of the landfill and supporting facilities/features. For example, can the LWTS/other drainage features take on additional capacity if such an event were to occur? The level of climate resiliency of the selected remedy should be discussed.

Clarification whether fill material used during operation of EMDF will meet landfill WAC.

Although the archeological/historic artifacts were deemed "not eligible for inclusion of the National Register of Historic Places, please clarify on how the archeological/historic artifacts will be handled during construction activity in the event that additional artifacts are discovered. Will SHPO be involved as part of process? Is there a contingency plan in the event that additional artifacts are encountered during construction phase?

What is the basis for this conclusion? Is it the depth to groundwater or other criteria? Please explain and provide a citation. A second option would be to delete this language from the ROD and put descriptions of underdrains in the RD/RA WP.

Is there a schedule for established RDLs that can be shared with EPA? EPA understands these will be in the final ROD. When will the RDLs be shared with the public?

In the past we have not allowed a new term to describe a land use. "Recreational" is more appropriate. We should discuss if it is appropriate to use this term to describe the prohibition on fishing.

Per the LUC Checklist #2, in Section 2.6 please include current and anticipated land uses for Zone 1, 2, and 3. Please include prohibited uses that may not be obvious based on the reasonable anticipated land use such as prohibit the development and use of property for residential housing, elementary and secondary schools, childcare facilities and playgrounds.

Please update figure with new land use restrictions for Zones 1, 2, and 3, as described in Sections 1.2 and 2.12. Further, please label LUC.

30 FFRRO	2.12.2.7 Land Use Controls	2-47	Land Use
31 FFRRO	2.12.2.7 Land Use Controls	2-47	Land Use
32 FFRRO	2.12.2.7 Land Use Controls	2-47	Land Use
33 FFRRO	2.12.2.7 Land Use Controls	2-47	Land Use
34 FFRRO	2.12.2.7 Land Use Controls	2-47	Land Use
35 FFRRO	2.7 Table		Land Use
39 FFRRO	2.12.2.3 Waste Acceptance Criteria	2-45	Leachate Treatment
40 FFRRO	2.12.2.4 Description of EMDF operations	2-46	Leachate Treatment
42 FFRRO	2.4 Scope and Role of the Action	2-11	Offsite Waste
44 FFRRO	2.10.9 Community Acceptance	2-29	Public Involvement
45 FFRRO	2.10.9 Community Acceptance	2-29	Public Involvement
46 FFRRO	2.10.9 Community Acceptance	2-29	Public Involvement
47 FFRRO	2.2.1 Previous Investigations and Data Sources	2-7	Public Involvement

The table states that the Federal government or its contractors will implement the LUCs.

All discharge water from EMDF will be treated as necessary to meet the most stringent applicable instream water quality criteria, including recreational, with consideration of the stream mixing zone at the point of discharge

As part of the remedy, a wastewater treatment system will be provided adjacent to the EMDF facility. The system will be sized to accommodate the estimated wastewater volume to be treated and designed to remove contaminants projected to exceed discharge criteria.

Fifth paragraph: The scope of the action is to provide for disposal of CERCLA waste generated from the cleanup...If at some future time. DOE CERCLA waste...

DOE held a public review and comment period from September 10, 2018 to January 9, 2019, and hosted two information sessions and a public meeting on November 7, 2018,...

First paragraph in this section.

Results of the Phase 1 site characterization confirmed the acceptability of the CBCV site for a new, low level (radioactive) waste (LLW) landfill and support final site selection.

To Region 4: Please apply the LUC Checklist, and clearly differentiate Zones 1-3. Since the LUCs are being modified for Zones 1 and 2, the LUC Checklist items should be memorialized in this ROD. This section is missing the following items from the LUC Checklist: Items 6-9; list of prohibited activities relating to industrial use (day cares, schools, recreation areas, etc.).

It is not clear what the Performance Action Objectives are for Zone 1, 2, and 3. Please clearly differentiate the LUC for each area. Please note that EPA's 1999 ROD Guidance states "Present a clear statement of the specific RAOs for the operable unit or site and reference a list or table of the individual performance standards."

It is not clear what the LUC instrument will be. Please provide more information on the LUC instrument, how it will be implemented and enforced.

Please add language that DOE is responsible for implementing, maintaining, reporting on, and enforcing the land use controls.

Please include the following language: "Although DOE may later transfer these procedural responsibilities to another party by contract, property transfer agreement, or through other means, DOE shall retain ultimate responsibility for remedy integrity."

More information/language is required in the ROD. Provide more details on how LUCs will be implemented for access controls.

It is unclear if this comment is only regarding mercury management or all COCs. It should apply to all COCs (including chemicals and radionuclides). It seems this is broader than mercury and should have its own heading in this section to avoid confusion. Discharge water should be treated to meet ARARs as well.

Is this the same as the LWTS referenced earlier in the document? If so, the same jargon should be used throughout the document.

What criteria will be used regarding CERCLA waste generated within the state that can be disposed at the on-site waste treatment unit? Need to consider how CERCLA offsite rule may impede the ability to retrieve ORR waste from offsite locations. More details are needed.

There is a requirement to publish a notice and brief analysis of the proposed plan and make such plan available to the public. Was this done? The date the newspaper ad was placed should be listed in this section. [CERCLA 117(a)(1) and (d); NCP 40 C.F.R. §300.430(f)(3) (i)(A).

Was a transcript of the meeting added to the AR? This is a requirement under the NCP to keep a transcript of the public meeting held during the public comment period pursuant to CERCLA section 117(a) and make such transcript available to the public. [CERCLA 117(a)(2); NCP 40 C.F.R. §300.430(f)(3) (i)(E)]

Include the language from the responsiveness summary which states: The meeting was publicized in all of the local newspapers, on social media, and by mailing reminders to all 15,000 households in Oak Ridge

When was this completed and where are the results of this study? Are they in the AR? Provide a citation in the ROD.

48 FFRRO	2.2.1 Previous Investigations and Data Sources	2-9	Public Involvement
49 FFRRO	3. Responsiveness Summary	3-3	Public Involvement
50 FFRRO	3. Responsiveness Summary	3-3	Public Involvement
51 FFRRO	3. Responsiveness Summary	3-3	Public Involvement
52 FFRRO	3. Responsiveness Summary	3-3	Public Involvement
54 FFRRO	1.3 Assessment of the Site	1-5	RAOs
55 FFRRO	2.8 Remedial Action Objectives.	2-17	RAOs
56 FFRRO	2.8 Remedial Action Objectives.	2-17	RAOs

Per the first formal Dispute Resolution Agreement between DOE, EPA, and TDEC in December 2017, the results and analysis of the field investigation, including the first 2 months of monitoring, were placed in the Administrative Record and were available during the Proposed Plan public comment period (DOE 2018c). The entire year long monitoring results are documented in a second Technical Memorandum (DOE 2019), also included in the Administrative Record.

First paragraph in this section.

The U.S. Department of Energy's (DOE's) Oak Ridge Office of Environmental Management (OREM) is committed to conducting all of the robust communication efforts listed in its Environmental Management Disposal Facility (EMDF) Community Outreach Plan, which was approved by the U.S. Environmental Protection Agency (EPA) and State of Tennessee.

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) public comment periods are only required to span 30 days. OREM's public comment period for the Proposed Plan was 120 days (September 10, 2018 – January 9, 2019) to ensure all interested parties had time to review and provide comments on the document. Two extensions were granted while the original comment period was set at 45 days.

Participants were able to obtain valuable information from posters, fact sheets, and speaking with all of the project managers associated with EMDF

The RAO states: Maintain a 15-ft separation between the bottom of emplaced waste and the seasonal high water table of the uppermost unconfined aquifer, which includes 5 ft of liner system and 10 ft of geologic buffer consistent with TDEC 0400-11-01-.04(4)(a)(2

The objectives state, *by preventing exposure that exceeds a human health risk of 10^{-4} to 10^{-6} ELCR or HI of 1.*

Maintain a 15-ft separation between the bottom of emplaced waste and the seasonal high water table of the uppermost unconfined aquifer, which includes 5 ft of liner system and 10 ft of geologic buffer consistent with TDEC 0400-11-01-.04(4)(a)(2

Was the public made aware of the availability of the second TM (2019)? Was any new information found through the 2019 effort that had an impact on the remedy selected or its implementability? There should be a section in the ROD that identifies any new information that came to light after the Proposed Plan was issued for public comment.

Suggest starting the paragraph with a new sentence which states: "This responsiveness summary was prepared in accordance with the requirements of Section 117(b) of CERCLA, as amended. The purpose of this responsiveness summary is to summarize and respond to significant public comments on the Proposed Plan (2018a)."

What is the year this document was issued/updated? Is it accessible by the public? Add the document to the references section if not already there and incorporate a hyperlink to the document. .

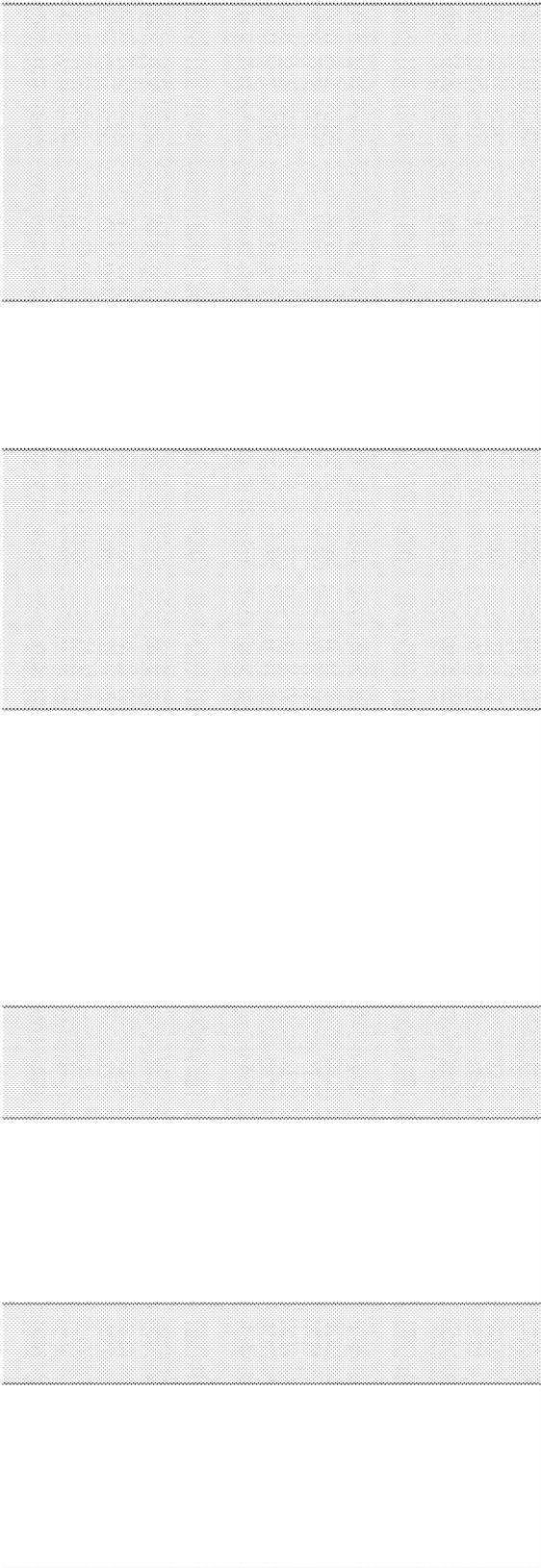
This comment is misleading. Please update with the language from the NCP. NCP 40 C.F.R. §300.430(f)(3)(i)(C) (C) states "Provide a reasonable opportunity, not less than 30 calendar days, for submission of written and oral comments on the proposed plan and the supporting analysis and information located in the information repository, including the RI/FS. Upon timely request, the lead agency will extend the public comment period by a minimum of 30 additional days."

If there is an estimate of number of members of the public who participated, please include that here.

Is this appropriate to have as a RAO? Seems more like a location-specific ARAR. The explanation below is "This requirement has been added as an RAO in order to assure protectiveness during operation and post-closure." Could be rewritten as "Protect groundwater by maintaining a 15 ft...."

Consider if it would be more appropriate to state "to prevent exposure until UU/UE is achieved."

Same as previous comment: Is this appropriate to have as a RAO? Seems more like a location-specific ARAR. The explanation below is "This requirement has been added as an RAO in order to assure protectiveness during operation and post-closure." Could be rewritten as "Protect groundwater by maintaining a 15 ft...."



57 FFRRO	2.12.2.6 Maintenance activities and environmental monitoring	2-47	RAOs
58 FFRRO	2.12 Summary of Preferred Remedy	2-33	RD/RA WP
59 FFRRO	2.12.2 Description of the Selected Remedy	2-37	RD/RA WP
22 FFRRO/FFEO	2.10.10 NEPA Values	2-31	Environmental Justice

Surveillance and maintenance (S&M) and performance monitoring will be implemented during operation and after facility closure .

Construction and operation of a LWTS consistent with ARARs

Based on the proposed locations for alternatives, coupled with the proximities of these proposed locations when compared with surrounding communities, it was demonstrated that no community is disproportionately affected by the potential environmental consequences presented by the onsite alternatives.

If performance monitoring shows that the landfill is not functioning properly, not meeting ARARs and/or posing an unacceptable risk to human health and the environment, what are the specific criteria to trigger the need to revisit the remedy? Have contingency plans been considered in the event the landfill impacts groundwater? It may be helpful to identify these triggers in the ROD so that the FFA parties have a clearer understanding of potential future actions.

Please include language that a RD or RAWP will be submitted, along with a timeline. Sample language: "A LUC Remedial Design will be prepared as the land use component of the Remedial Design. Within 90 days of ROD signature, the [federal agency] shall prepare and submit to EPA for review and approval a LUC remedial design that shall contain implementation and maintenance actions, including periodic inspections." Another option is to refer to the enforceable schedule in the IAG for the RD or RAWP."

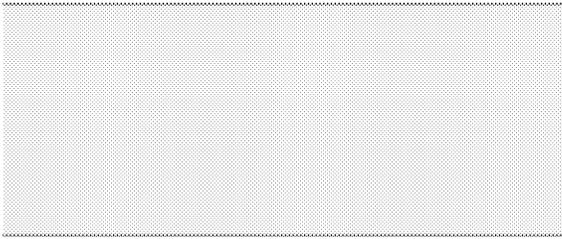
Details of the LWTS should be included as part of the remedial design which will undergo EPA review/approval. This should be called out in the selected remedy section along with a schedule for remedy implementation (see other comments on including an enforceable schedule in the ROD).

Please elaborate on how this does not pose an EJ concern. The following should be added to the discussion: how EJ was considered, how they'll undertake meaningful stakeholder outreach, how it was demonstrated that no community was disproportionately affected. Is it because of X distance from the site to neighboring areas? Is it lack of exposure pathways to vulnerable communities? A lack of vulnerable communities? Which specific factors were used to make this determination. A new section in the ROD should be written that conducts a full EJ analysis outside of this smaller section under DOE NEPA values. The 2015 EPA Guidance on Considering EJ During the Development of Regulatory Actions provides more information on how to consider EJ. IT states "current EPA guidance does not prescribe or recommend a specific approach or methodology for conducting screening-level analysis. A screening-level analysis should provide information related to whether there may be potential EJ concerns associated with regulatory actions, and may include elements such as the following:

1. A description of the potential impacts on, and existing risks to, minority populations, low-income populations, and/or indigenous peoples. This may involve a description of:

- The proximity of sources being regulated to these populations
- The number of sources that may be impacting these populations
- The nature and amount of pollutants that may be impacting these populations
- Whether there are any unique exposure pathways involved
- Combinations of the various EJ factors occurring in conjunction with one another
- Expressed stakeholder concerns about the action, if any.

2. A description of potential impediments to meaningful involvement. This may involve understanding whether the action presents opportunities to improve public involvement requirements or limits opportunities in some way." After initial screening, qualitative factors addressing site-specific factors should be identified and considered. (<https://www.epa.gov/environmentaljustice/guidance-considering-environmental-justice-during-development-action>)



41 FFRRO/OSRTI	2.10.5 Short Term Effectiveness	2-27	Mitigation Measures
65 OGC		2-46; 2-50	ARAR
66 OGC		2-46	ARAR
67 OGC		2-54	Discharge Limits
68 OGC		3-0	Public Involvement
10 OLEM IO		2-21	Comparative Analysis
11 OLEM IO		2-28	Comparative Analysis

The ROD text notes: The greatest impact would be installation of EMDF in CBCV or WBCV, where up to 94 acres of forested land would be expected to be impacted. The other onsite alternatives had less, but still notable, impact on environmental habitat. Text also states: "Disturbance to terrestrial resources would be expected, with land use resulting in losses/changes of habitat and displacement of wildlife from the construction areas. The greatest impact would be installation of EMDF in CBCV or WBCV, where up to 94 acres of forested land would be expected to be impacted. The other onsite alternatives had less, but still notable, impact on environmental habitat."

The CBCV location would appear to also impact existing wetlands as shown in Figure 2.3 on p. 2-8. Section 2.5 on p. 2-12 indicates "The cleared area includes a recent soil staging area along the southern margin and two wetland basins completed in 2015 for Y-12 compensatory wetland mitigation." Table 2-1 indicates "Impacts would be minimized through use of BMPs or mitigated in accordance with ARARs" and 2.12.4 indicates "The loss of habitat and some wetland areas also will occur during construction. Mitigation of wetland impacts will be implemented as required by ARARs."

EPA acknowledges that the CBCV location was a location alternative developed with input from EPA and TDEC. However, we should consider if this action is unduly impacting forested lands. Some of the public comments in the Responsiveness Summary asked why we are building this landfill in a green area and there was not a cogent response. Are there other triggers for restoring/replacing existing compensatory wetlands beyond what is included in ARARs for the EMDF ROD? Will DOE include additional compensatory mitigation to account for its impacting the existing wetlands constructed themselves as a mitigation project for Y-12?

NRC regulations (not CWA regulations) are the ARARs being used for purposes of wastewater discharge effluent limits (see p. 2-46 and 2-50). To the extent the NRC regulations are not as stringent as the relevant and appropriate CWA regulations, this approach is not consistent with the NCP and as discussed in the preamble to the final NCP, this approach does not ensure protectiveness of human health and the environment as required by CERCLA.

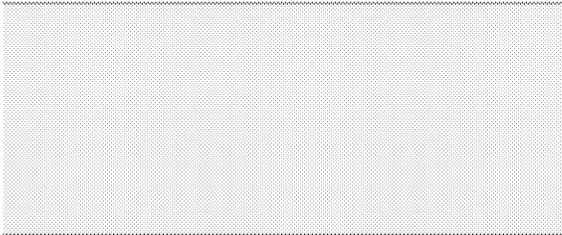
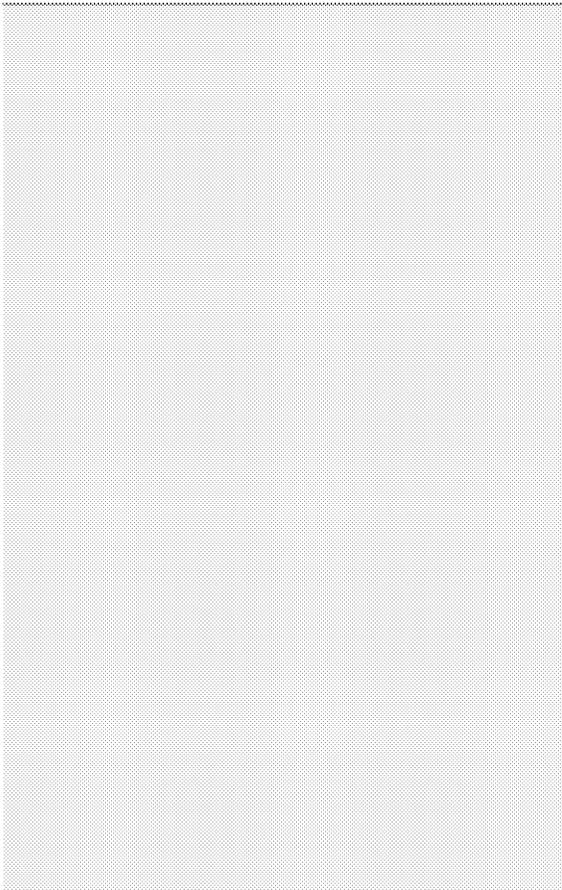
Dilution and distance are being used (see p. 2-46: "Compliance with the ARARs is required at the nearest point of public exposure, which is downstream from the facility." see also, similar statements in June, 2021 revised FFS Appendix K, at K-20). This approach is not consistent with relevant and appropriate CWA regulations, is not consistent with CERCLA and the NCP (for example, compliance with substantive requirements in ARARs), and does not ensure protectiveness of human health and the environment as required by CERCLA.

The draft ROD does not include final effluent discharge numbers (see p. 2-54: "RDLs will be established by the FFA parties and will be included in this ROD prior to its approval."). This approach is inconsistent with CERCLA section 117 and the NCP in that it does not provide a meaningful opportunity for public participation in the CERCLA remedy selection process.

The draft ROD (see e.g., p. 3-153) includes responses to comments received from the public on the proposed plan. Some commenters raised concerns about the lack of information, and as a result the absence of a meaningful opportunity for the public to comment, regarding wastewater discharges from the landfill in the proposed plan. The draft ROD does not provide meaningful responses to those comments.

Summary of comparative analysis has definitely a different perspective on specifically the first threshold criteria, see pages 2-21 for my comments.

State acceptance is mentioned (page 2-28) but no information is provided to support that statement.



12 OLEM IO		2-28; 2-50	Comparative Analysis
18 OLEM IO		0	Design
36 OLEM IO		0	Land Use
OLEM 9 IO/OSRTI		1-4; 2-33	Beavers
OLEM 20 IO/OSRTI		0	Dispute Resolution
60 ORCR	2.13.2.1 Waiver to TSCA 40 CFR 761.75(c)(4)	2-51	TSCA Waiver
5 OSRTI		2-46	ARAR
21 OSRTI		0	Draft Quality
6 OSRTI		1.3	ARAR
7 OSRTI		1.2 1-4	ARAR
8 OSRTI	2.13.2.1 and Part 3		ARAR

Waiver to TSCA 40 CFR 761.75(c)(4)

“Compliance with the ARARs is required at the nearest point of public exposure, which is downstream from the facility.” (also, in FFS Appendix K-20.)

ARARS (Section 1.2) - Declaration, Section 1.2, page 1-4, seventh paragraph. This paragraph states that the selected alternative meets the threshold criteria that the action “(1) be protective of human health and the environment, (2) attain those applicable or relevant and appropriate requirements (ARARs) . . .”

Costs are in FY 2016 dollars (page 2-28) and in FY 2012 dollars (page 2-50). Costs should be consistent and should be updated since it is now 4th Quarter FY 2021.

The draft ROD also refers to LLW and higher level waste. However, the document does not provide a definition. These definitions should be added to the ROD

The draft ROD also makes and changes land use designations. CERCLA RODs or remedies can make land use assumptions based on land use designations, that are typically done at the local level. In this case, it would be by DOE in their Facility Land Use Plan. The draft ROD should be clear on that issue and provide a basis for changing the land use assumptions.

Regarding beaver control to limit or discourage fishing in Bear Creek (page 1-4 and 2-33), it is inappropriate and outside the purview of DOE to remove beavers to prevent pooling in the river to prevent fish production.

The draft ROD does not provide much discussion about the dispute and the impacts of the dispute resolution on this decision. This needs to be addressed, given that the dispute decision is still under discussion and the outcome of the decision (discharge limits) are not included in the draft ROD. Inconsistent with the Adm Wheeler Dispute Decision which is under review. Does not provide an accurate portrayal of the decision and doesn't show how this was factored into this decision. It seems to be relying on the NRC regulations and not other parts of the decision.

For Region 4: The waiver request appears to have been submitted appropriately, in accordance with the TSCA PCB regulations at 40 CFR 761.75(c)(4). In general, we believe a waiver can be appropriate, provided the engineering design and site specific conditions allow for a finding of no unreasonable risk. The impacts of extreme weather and climate change were likely not considered when the referenced guidance was issued in 1990, so we encourage those considerations to be included in the design of the landfill. If waivers have been requested for similar circumstances at other CERCLA sites in the past, we encourage a review of those decisions and whether any relevant precedential information should be applied to this scenario as well.

Dilution and Distance Inappropriate (Page 2-46) -- Inappropriate use of dilution and distance – Dilution and distance are being used (see p. 2-46: “Compliance with the ARARs is required at the nearest point of public exposure, which is downstream from the facility.” (also, in FFS Appendix K-20.) This use is inconsistent with CERCLA and the NCP.

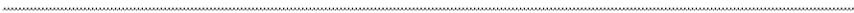
Major sections of the D1 ROD are missing which make it difficult to provide a complete regulatory review. Deficiencies include: the waste acceptance criteria, radiological discharge levels, and the ARARs among other issues.

Lacking AWQCs (Section 1.3) -- AWQC's consistent with the 12/31/2020 Administrator's dispute decision need to be documented in the FFS and included in the ROD. Lacking inclusion of AWQC's, it would not be possible to determine whether the remedy is protective

Need to include standards such as TDEC 0400-40-04-.09 -- use of Bear Creek as designated by the state's stream classifications.

ARARs Waivers (2.13.2.1 and Responsiveness Summary Part 3) – this document uses the term “equivalent standard of performance” throughout as the ARARs waiver. It appears this usage is incorrect but rather we should be citing the TSCA regulation and the TN waiver provisions.

37 OSRTI	2.12	Land Use
38 OSRTI	1.2	Land Use
62 OSRTI	0	Waste Acceptance Criteria
63 OSRTI	2.8 0	Waste Acceptance Criteria
64 OSRTI	2.1 0	Waste Acceptance Criteria
OSRTI/OLEM 53 IO	3-0	Public Involvement



Fish advisories are referenced in this section. If fish advisories are going to be relied upon as part of the selected remedy, it needs to be identified as a LUC.

Statement of Basis (1.2.) (Land Use) - - Need to use "land use assumptions" and needs to comport with the TN designation of the stream as recreational.

The contaminants include Rn-222 which result in radon emissions. We have had levels of radon at levels unprotective for workers and additional precautions such as a deeper cap are needed. Has this been evaluated for EMDF?

Remediation Goal (2.8) – Under CERCLA we need to set remediation goals for all parts of the response. Landfill -- Will there be an unacceptable risk to a person standing on the landfill due to gamma radiation? What standard for releases from the landfill will be required for it to meet protection of the surface water and groundwater? What level of radioactivity will be allowed to be disposed in this unit? A Low-Level Waste designation does not provide information as to the level of radiation.

The ROD needs to be clear in the scope and role section (2.10) that each individual ROD for which a remedy will send waste to this landfill will meet the specific (yet to be specified) WAC for the landfill.

Many commenters noted the need for a reopened public comment period since key information on WAC, ARARs, release criteria, etc. since this information was not made available to the public. Also, there were repeated questions related to why we did not consider an already contaminated area for the disposal area. The responses to comment need to be rewritten to ensure we are addressing the specific comment raised.

Comment	EPA Office	Document		
		Section	Page #	Topic

OLEM IO 1.2 1-3

OLEM IO 1.2 1-4

OLEM IO 1.2 1-9

OLEM IO 2.2.2 2-9

OLEM IO 2.6 2-16

OLEM IO 2.7 2-16

OLEM IO 2.8 2-17

OLEM IO table 2.1

OLEM IO table 2.1

Additionally, BCV from Highway 95 east to the Y-12 National Security Complex (areas including Zones 1, 2, and 3) is within DOE-posted No Trespassing property limits; therefore, although portions of this property are open for recreational hunting (turkey and deer) at limited times, fishing is never allowed, and is prohibited within the whole Bear Creek Watershed.

These land use modifications, which are necessary based on this new CERCLA decision, are consistent with the BCV Phase I ROD language that states "These initial goals will remain in effect unless new technologies, land use requirements, regulatory requirements, or subsequent CERCLA decisions for BCV establish a basis for revision."

Closure of EMDF after operations are complete, consistent with ARARs.

The RER indicates that contaminant concentrations in the valley have improved as a result of the actions taken, but that final remediation goals have not yet been met.

While the EUWG Stakeholder Report on Stewardship (DOE 1998b) included recommendations on the end use of BCV and for siting an onsite CERCLA waste disposal facility, there are no formal land use plans for ORR.

SUMMARY OF SITE RISKS

Prevent exposure of people to waste in EMDF (or contaminants released from the EMDF into the environment) through meeting chemical-, location-, and action-specific ARARs, and by preventing exposure that exceeds a human health risk of 10^{-4} to 10^{-6} ELCR or HI of 1

Offsite Alternative: More protective than the Onsite or Hybrid Disposal Alternatives in preventing releases on the ORR because waste would be permanently removed and disposed in unpopulated regions with greater depths to groundwater

Up to approximately 1.6 acres of wetlands impacted. Impacts would be minimized through use of BMPs or mitigated in a

Is that true that fishing is prohibited within the whole Bear Creek Watershed? Tennessee has designated Bear Creek as recreational, I would assume that fishing is part of recreation.

Land use restrictions do not necessarily address surface water use, or groundwater. There is still a discharge to the Bear Creek outside the facility which DOE does not have the authority to change the designated use of that stream, that is Tennessee's authority to do.

What operations? Cleanup operations or ORR operations? This should be consistent with closure requirements. Will these ARARs be specified in this decision document?

This is an interesting comment. Do we have final remediation goals? Have all actions within the valley been selected and implemented?

But you have land use designations. So how are the designations established without a formal land use plan?

But this is the section that should discuss the risks to HH and ECO from the discharges of the landfill to sw, gw and air.

What does this mean? Direct contact? Inhalation, fish consumption? What?

It is either protective or not. Now it may be that in the longterm effectiveness and permanence and short term risks this information may be more appropriate to include.

What ARARs provide for the mitigation?

OLEM IO 2.10.3

OLEM IO 2.10.9 2-29

OLEM IO 2.12.2.2 2-38

OLEM IO 2.12.2.2

OLEM IO Table 2.5

OLEM IO Table 2.6

OLEM IO Table 2.8

OLEM IO 2.12.4 2-50

OLEM IO 2.14.3

The No Action Alternative may or may not have been effective, as it would depend on multiple future individual waste disposal decisions. Because the decisions would be under CERCLA, they would be required to be protective

Although the SSAB did not submit comments during the public comment period, they had provided earlier endorsement of the EMDF .

The EMDF construction will be conducted in phases over the cleanup time frame .

As the overall design of the landfill progresses, the scope of activities in the site preparation phase may be modified.

The RAOs will be met by implementing the selected remedy.

Groundwater Field Demonstration

Effective and protective are different criteria.

How? Through writing, please reference the document to support this statement.

What is that time frame?

Add timelines for each phase of construction.

Are these the levels we expect to see at closure? If so, what are the corresponding risk?

Are these discharge or exposure limits?

Cost should be updated...these are 9 years old.

How is this statement supported?

This should be moved to the selected remedy section.